WASHINGTON STATE PATROL – FIRE PROTECTION BUREAU
INSPECTION SECTION
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I. Storage and Use of Medical Oxygen in Boarding Homes, Group Homes and ATF

Gaseous and liquid oxygen used for medical purposes may be found in state licensed facilities. The following requirements and guidelines are intended to provide inspectors with the necessary information to reduce the potential hazards of storing and using medical oxygen in state licensed facilities:

1. **Storage and Use of Gaseous Oxygen**
    a. State Licensed facilities shall comply with the current adopted edition of the International Fire Code (IFC).
    b. State licensed facilities may maintain up to the maximum allowable quantities of oxygen in storage and in use as prescribed by the IFC for control areas and residential units.
    c. Inspectors shall assess the quantity and state of oxygen in use and in storage.
    d. Inspectors shall assess the construction of the building and the storage methods to ensure compliance with the requirements of the prevailing code.
    e. Inspectors shall request to inspect resident units in state licensed facilities where oxygen is in storage or in use for the following:
        i. Each resident room or units shall provide a safe environment that is free of fire hazards.
        ii. Storage of oxygen containers, cylinders, and tanks in resident rooms or units in excess of 250 cubic feet shall not be allowed.
        iii. Oxygen storage up to 250 cubic feet may be allowed in a resident room or unit.
        iv. Smoking shall be prohibited in resident rooms or units, where oxygen is used or stored, and signage warning of the presence of oxygen and prohibiting smoking and/or open flame shall be posted.
        v. Oxygen in excess of 250 cubic feet shall be stored in a central storage room that meets the requirements of the IFC.
        vi. Open flames and high-temperature devices shall not be used in a manner which creates a hazardous condition and shall be listed for use with the hazardous materials stored or used.
        vii. Compressed gas containers, cylinders and tanks shall be secured to prevent falling caused by contact, vibration, or seismic activity.
        viii. Inspectors may reject the use or storage of oxygen in resident units where a material safety risk has been identified.

2. **Liquid Oxygen in Resident Rooms (LOX)**
    a. Seller must provide each user with written information instructing residents on the proper storage, use and handling of LOX.
    b. Maximum allowable quantity per container shall not exceed 15.8 gallons in Group R occupancies.
    c. Manufacturer's instructions and labeling shall be provided and followed.
    d. Location of containers:
        i. Not in a location where it could be overturned due to the operation of a door.
        ii. Not in the direct path of egress.
        iii. Not where they could be subject to falling objects.
        iv. Not where they could become part of an electrical circuit.
        v. Not where there would be open flames or high temperature devices.

vi. LOX containers shall be restrained.
vii. Moving containers shall be done by hand truck or cart.
viii. Exceptions: Home care containers with rollers or hand carried ambulatory containers.

e. A drip pan compatible with LOX shall be provided under home care container fill and vent connections during the filling process.
f. Separation of open flame and high temperature devices shall be maintained.
g. Maximum Aggregate Quantity of LOX allowed in storage and use in each dwelling unit shall be 31.6 gallons. The IFC permits a maximum of 31.6 gallons of LOX in an individual sleeping room when the room is separated from the remainder of the dwelling unit by 1-hour fire resistant fire barrier.
h. Smoking shall be prohibited in rooms where LOX is in use.
i. No smoking signs indicating oxygen is in use shall be provided.
j. The oxygen supplier shall notify the local fire agency when supply liquid oxygen to a state licensed facility.

3. Control Areas

a. Control areas allow a building to be built without having to classify it or the use area as hazardous. The requirements for the construction, number and separation requirements follow:
   i. A control area may be an entire building or any portion of the building.
   ii. Where a building is not compartmented as required by the code for control areas, the entire building would be considered a control area.
   iii. By using multiple control areas, the overall quantity of hazardous materials in the building can be increased because the allowable quantity can be present in each control area and the building would not be classified as group H.
   iv. Again, the provisions of this section are applicable only when control areas are chosen as a design alternative to classification of the occupancy as group H.
b. Control Area Construction Requirements and Fire Resistive ratings.
   i. Control areas shall be separated from each other by fire barriers constructed in accordance with the International Building Code.
   ii. The percentage of maximum allowable quantities as allowed per the IFC.
   iii. Control areas must be separated from each other by no less than one-hour construction. As the height of the building increases, the number of control areas decreases and the fire resistance rating increases in accordance with the IFC.
   iv. Floor construction shall be a minimum two-hour fire resistive rating.
      Exception: The floor construction of the control area is allowed to be one-hour fire resistive rated in buildings of type IIA, IIIA, and VA provided that both of the following conditions exist: the building is equipped throughout with an automatic sprinkler system; and the building is three stories or less in height.

4. Maximum Allowable Quantities

a. The maximum allowable quantity per control area is 1,500 cubic feet in an unsprinklered building and 3,000 in a sprinklered building.
b. The maximum quantity of liquid oxygen per control area is 15.8 gallons in an unsprinklered building and 31.6 gallons in a fully sprinklered building.
   i. The maximum amounts of both liquid oxygen and gaseous oxygen per control area can be maintained in the same control area.
   ii. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

5. Hazardous Materials Management Plan

a. Facility administrators shall develop a hazardous materials management plan and inventory statement that at the minimum provides the following:

i. A list of the vendor's that supply oxygen to the facility.

ii. A list of the residents rooms where oxygen is in storage or in use.

iii. The type and quantity of oxygen (liquid or gaseous) in the facility.

iv. Central storage locations and a floor plan that reflects the location of the storage rooms.